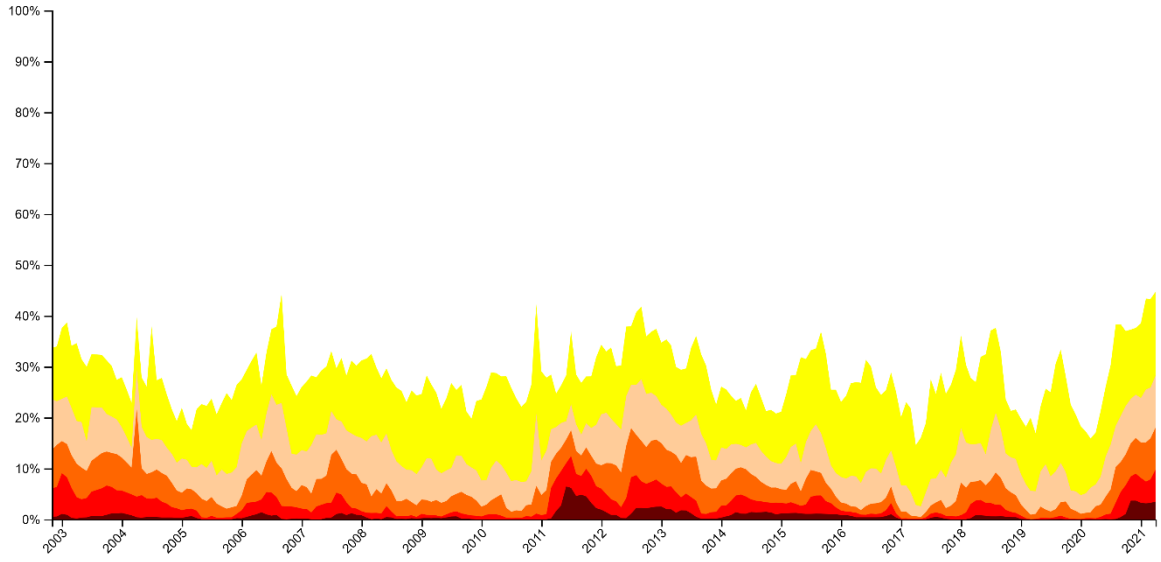
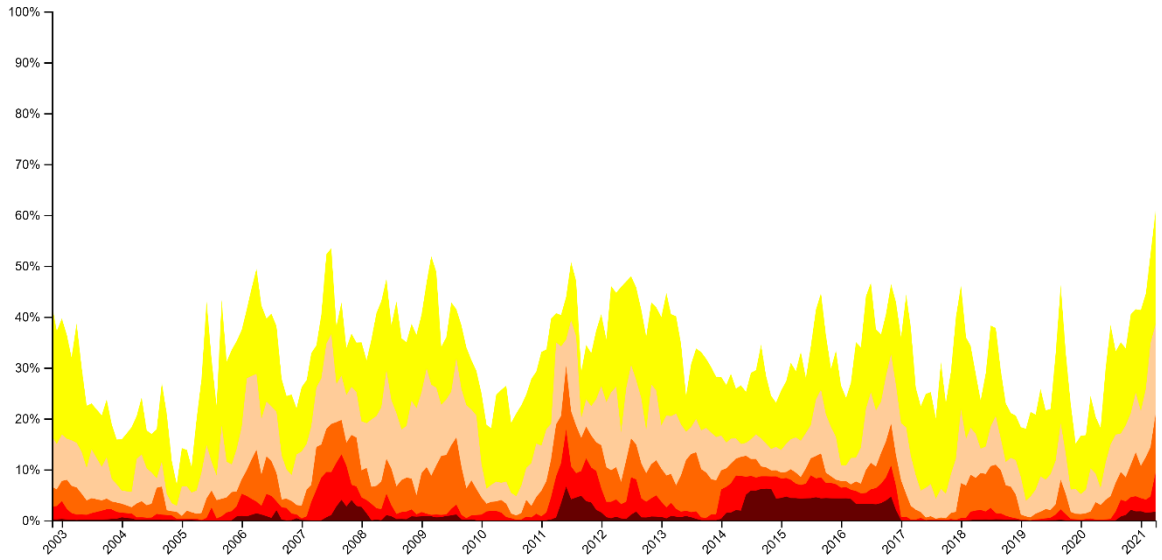
North American Drought Monitor – April 2021

At the end of April 2021, moderate to exceptional drought (D1-D4) affected 28.3% of the area and 38.6% of the population of North America. The percent area value was 2.4% more than the value for the end of March 2021. The percent population value was 3.4% more than the value for the end of March. The 28.3% D1-D4 percent area for April 2021 is the second largest D1-D4 percent area in the 2002-2021 NADM historical record; the largest was 29.5% in April 2004. The 38.6% D1-D4 population percent value for April 2021 is also the second largest D1-D4 population percentage in the NADM historical record; the largest was 39.3% in July 2011. At the end of April 2021, 96.4% of the Rio Grande/Bravo River Basin, 51.0% of the Columbia River Basin, and 60.9% of the Great Plains were in moderate to exceptional drought, and 35.1% of the Great Lakes Basin was in moderate to severe (D1-D2) drought. The North American Great Plains extends across the United States and into adjacent parts of northeast Mexico and the southern Prairies of Canada. The percent area values for the Great Plains and all three river basins increased compared to the end of March 2021.



Percent area of North America in drought, November 2002-April 2021.



Percent of the population of North America in drought, November 2002-April 2021.

CANADA:

National Overview

Below-normal precipitation and variable temperatures across Canada through the month of April allowed drought conditions to persist with an increased cause for concern in the Prairie Region. Across the Pacific Region, Abnormally Dry (D0) conditions persisted and expanded, including the emergence of Moderate Drought (D1) conditions in the Interior. The Prairie Region saw the most significant drought concerns amplifying in the southeast, including Saskatchewan and Manitoba. In Central Canada, Abnormally Dry (D0) conditions improved in northwestern Ontario, while Abnormally Dry (D0) conditions and Moderate Drought (D1) expanded throughout southern Ontario. Atlantic Canada and the Northern Region saw minimal changes regarding Abnormally Dry (D0) conditions. By the end of the month, Moderate to Extreme Drought (D1-D3) affected eleven percent of the country.

Pacific (BC)

In British Columbia, conditions deteriorated due to below-normal precipitation throughout April. These conditions created a slight expansion of Abnormally Dry (D0) conditions throughout Vancouver Island. Abnormally dry conditions also expanded to mainland British Columbia; this includes the area stretching east of Vancouver. Across the interior, dry conditions persist as this region received below-normal snowpack throughout the Winter. In addition, mid-elevation snowmelt occurred sooner than normal throughout the Spring. These are both causes for concern, as precipitation in the region has been below-normal in the last 60 days. This dryness extends southeast towards the U.S. and Alberta border, where areas are reported as dry in both the short- and long-term. These areas received less than normal

precipitation with some areas receiving 50 to 70 percent below-normal in the past 60 days, and 25 to 50 percent within the last 90 days. These conditions have led to expanded areas of Abnormally Dry (D0) conditions in eastern British Columbia around Golden, as well as the introduction of Moderate Drought (D1) surrounding Salmon Arm, and Kelowna, and along the U.S. border including Nelson and Cranbrook. In the northern part of the province, Abnormally Dry (D0) conditions expanded to surround Fort St. John, resulting in a continuous expanse of D0 stretching east into Alberta, and north towards Fort Nelson. However, D0 conditions were alleviated in the southern Peace River region surrounding Wells and south of Dawson Creek. Nineteen percent of the province was considered Abnormally Dry (D0), while nearly four percent was classified as Moderate Drought (D1); these conditions accounted for fifty-eight percent of the agricultural landscape.

Prairies (AB, SK, MB)

Drought conditions across the Prairies persisted due to extreme dryness across much of the region. Alberta saw a trend of below-normal precipitation across the south of the province. Moderate Drought (D1) conditions were expanded in southern portion of the province, due to moderately Low to Very Low precipitation percentiles over the last 6 months. Recent precipitation across the Rockies, and eastern slopes, caused the removal of Abnormally Dry (D0) conditions. However, although excluded from previous drought assessments, conditions surrounding Calgary worsened to be included as Abnormally Dry (D0). D0 conditions also expanded north and west of Grimshaw to include Manning and Fort St. John, B.C. Abnormally Dry (D0) conditions through the Peace Region of B.C., as well as northern Alberta and Saskatchewan followed a line west to east of 25 to 50 percent below-normal precipitation. Above-normal precipitation over the past 90 days alleviated Abnormally Dry (D0) conditions surrounding Grand Prairie and west over the British Columbia and Alberta border. Upwards of 75 percent below-normal precipitation caused a fairly large expansion of Moderate Drought (D1) across much of east-central Alberta and west-central Saskatchewan, now including Rosetown and Swift Current. These areas have had reports of producers hauling water for dugouts and a lack of moisture for pasture areas. Soil moisture at both shallow and deeper depths are also significantly lacking and will need to see an increase in moisture for crops to progress beyond seeding. A substantial lack of moisture in the last 6 months, along with previously reported dry conditions, has led to an emergence of Severe Drought (D2) conditions surrounding North Battleford and Vegreville. In southeastern Saskatchewan, mid-month precipitation only replenished surface soil moisture, which lead to a minimal decrease in conditions around Shaunavon and Gull Lake. This same precipitation event also alleviated D2 conditions surrounding Regina. However, even with this much-needed moisture, Severe Drought (D2) and Extreme Drought (D3) were expanded across southern Saskatchewan given a significant lack of moisture through the winter season and a dry 2020 growing season. This expansion includes D2 conditions persisting southwest Saskatchewan and expanding west to Alberta, and D3 conditions expanding west to include Estevan, and north, including Weyburn. East-central Saskatchewan and west-central Manitoba received adequate precipitation through the month of April, resulting in slight improvements to both D0 and D1 conditions south of Cumberland House, and Grand Rapids. In southern Manitoba, exceptional short- and long-term dryness persisted, which led to an expansion of the previously small pockets of Extreme Drought (D3). This dryness, in combination with snow melt, exposing soils to sunlight, winds and evaporation, led to D3

conditions expanding to the southwest corner of the province including Neepawa to Russell and Virden and the Interlake Region. Seventy-seven percent of the Prairie region was classified as either Abnormally Dry (D0), in Moderate Drought (D1), Severe Drought (D2) or Extreme Drought (D3); this includes nearly ninety-three percent of the region's agricultural landscape.

Central (ON, QC)

The Central Region experienced both an increase and decrease in precipitation, depending on the area of interest. Significant moisture fell across Northwestern Ontario throughout the month which led to significant improvement and the removal of Abnormally Dry (D0) and Moderate Drought (D1) conditions surrounding Thunder Bay. Ample recent moisture seen in the short-term departure from normal precipitation product also led to the removal of Severe Drought (D2) surrounding Sioux Lookout and Dryden, as well as a signification reduction in D0 conditions from Red Lake, east to Osnaburgh House. In southern Ontario, Moderate Drought (D1) conditions were expanded as the area received only 25 to 50 percent of normal precipitation within the past 3 months, along with dry conditions in the past 365 days (as seen in the SPEI); some areas also reported as low as 40 to 60 percent below-normal precipitation within the last 90 days. The Chatham-Kent region saw a small pocket of Severe Drought (D2) appear due to short-term dryness combined with low moisture levels from the previous agricultural and winter seasons. Conditions along the U.S. border from Cornwall into southern Quebec did not see significant changes from March to April. However, Abnormally Dry (D0) conditions were significantly expanded to include a larger portion further north and west, as this area received 70 to 100 percent below-normal precipitation in the last month, highlighting Sherbrooke, QC., and Cornwall, ON., as being Extremely to Exceptionally Low. Twenty-three percent of the Central region remains Abnormally Dry (D0), in Moderate Drought (D1) or in Severe Drought (D2); including approximately eighty-eight percent of the region's agricultural landscape.

Atlantic (NB, NS, PEI, NL)

Much of the Atlantic Region remained unchanged for the month of April due to near- to above-normal precipitation and limited areas in Abnormally Dry (D0) conditions. Minor changes were made to D0 conditions in Nova Scotia where precipitation improved over the past 30 days. Across Newfoundland, increased precipitation in April slightly improved D0 conditions from Cape Ray to Burgeo, however the majority of conditions remained consistent as slight dryness persisted along the western edge of the island. Only four percent of the Atlantic region is classified as Abnormally Dry (D0); this includes approximately thirteen percent of the region's agricultural landscape.

Northern (YT, NWT)

Minimal changes were made to the expanse of Abnormally Dry (D0) conditions in the Northern region for the month of April, barring a couple areas of improvement. Increased precipitation led to a minimal decrease in D0 conditions east of the U.S./Yukon border, as well as the removal of a D0 pocket in the Northwest Territories that previously surrounded Hay River and a portion of Great Slave Lake. Although the Old Crow station reported below-

normal precipitation since September, 170 percent of normal precipitation fell in the region in April, which led to a reduction in D0 surrounding the community. Approximately sixteen percent of the Northern region is classified as Abnormally Dry (D0).

UNITED STATES:

Synoptic Summary: Several shortwave troughs and closed lows moved through the jet stream flow across the contiguous United States (CONUS) during April 2021, dragging surface lows and fronts with them. The weather systems generally moved in a west to east direction across the CONUS. The longwave pattern oscillated between predominant ridging and troughing throughout the month, with ridges dominating early and late in the month and a large trough holding sway during the middle of the month. The northerly flow spanning the continent, that was associated with the trough, funneled cold and dry Canadian air into the heart of the CONUS, resulting in below-normal temperatures that dominated the monthly mean across the Plains to Southeast, as well as below-normal precipitation for the period. When averaged across the month, the atmospheric circulation consisted of an anomalous ridge along the West Coast and trough just off the Atlantic Coast. The ridge inhibited precipitation over the West, while the northerly flow of dry Canadian air masses blocked Gulf of Mexico moisture from reaching the central to northern Plains and areas further east. At times, some troughs and lows tracked northeast from the central Rockies to Upper Mississippi Valley, and from the southern Plains to Northeast, while others tracked along cold fronts situated near the Gulf of Mexico — these systems brought above-normal precipitation to parts of these regions. But for most of the CONUS, April was drier than normal.

National Overview: According to statistics computed by NOAA's National Centers for Environmental Information (NCEI), the average temperature of the CONUS during April 2021 was 51.9 °F (11.06 °C), 0.9 °F (0.5 °C) above the 20th-century average. This ranked in the middle third of the 127-year period of record (1895-2021). Monthly temperatures were warmer than average across much of the West Coast, Southwest, Northeast, and Great Lakes, and parts of southern Texas and Florida. A large portion of the southern Plains and Gulf Coast states experienced below-average temperatures, as did portions of the northern and central Rockies, northern and central Plains, and the Tennessee Valley. The April precipitation total for the CONUS was 2.03 inches (51.6 mm), 0.49 inch (12.4 mm) below average, with April 2021 ranking as the 14th-driest April in the 127-year period of record. This was the driest April since 1989. April precipitation was below normal across most of the West, central to northern Plains, Great Lakes, Ohio and Tennessee Valleys, and along the East Coast from South Carolina to Rhode Island; and much of the southern Plains. Monthly precipitation was above normal where storms tracked along frontal boundaries – this included much of the Gulf of Mexico coast and parts of the Upper Mississippi Valley, southern Plains to Mid-Mississippi Valley, and Northeast.

The national (CONUS) percent area in moderate to exceptional drought (D1-D4) steadily increased during the four weeks from March 30 to April 27, rising from 43.9% to 48.4%. For all 50 states and Puerto Rico, the D1-D4 area rose from 36.7% to 40.4%. Drought or abnormal dryness expanded or intensified in the West, northern and southern Plains, Great

Lakes to Ohio Valley, Northeast, Carolinas, Hawaii, and Puerto Rico. Drought or abnormal dryness contracted or reduced in intensity over parts of Wyoming, Colorado, Florida, and Alaska; the southern Plains to Lower Mississippi Valley; and Upper Mississippi Valley to western Great Lakes.

Drought Impacts: Monthly streamflow observations at U.S. Geological Service (USGS) gauges were below normal to record low across the much of the West (except northern Rockies), northern Plains (especially North Dakota), eastern Great Lakes to New England, parts of Texas, and southern to eastern Puerto Rico. USGS wells and GRACE satellite-based observations indicated below-normal groundwater, and several satellite-based indicators, models, and U.S. Department of Agriculture (USDA) observations indicated dry soils, in these same regions. USDA statistics note that, on a national scale, 34% of the topsoil moisture and 37% of the subsoil moisture were short or very short (dry or very dry), and the U.S. started the 2021 growing season with 47% of the rangeland/pastures rated in poor to very poor condition – this is more than the modern spring record of 36% at the end of April 2013, following the historic 2012 drought. Nationwide, 19% of the winter wheat was in poor to very poor condition. As of April 27, drought affected approximately 82% of spring wheat production, 63% of the sheep inventory, 59% of barley production, 54% of the milk cow inventory, 42% of sorghum production, 39% of winter wheat production, 39% of the cattle inventory, 37% of cotton production, 36% of hay acreage, 22% of corn production, 22% of rice production, 19% of soybean production, and 10% of peanut production. The Primary Hard Red Winter Wheat agricultural belt experienced the 23rd driest and 38th coldest April, regionwide, in the 1895-2021 record. October marks the beginning of the growing season for this agricultural belt. October 2020-April 2021 ranked as the 58th driest and 47th warmest October-April, regionwide. The Primary Corn and Soybean agricultural belt had the 28th driest and 58th warmest April, regionwide. March marks the beginning of the growing season for this agricultural belt, with March-April 2021 ranking as the 47th wettest and 14th warmest. The month began with several large wildfires occurring in the Dakotas and central to southern Plains (Kansas, Oklahoma, Missouri, and Arkansas region), but those were mostly contained or put out while others developed in the Southwest. According to National Interagency Coordination Center (NICC) reports, the total acreage burned for the year to date of 457,138 acres was below the ten-year average of 831,826 acres.

Reports received through the Condition Monitoring Observer Reports (CMOR) system included drought impacts to ranching operations in the West and farming and ranching operations, as well as fire concerns, in the northern Plains. Low stock pond water or dry ponds and dugouts, poor quality water, and hay shortages are concerns for cattle producers. Little to no soil moisture worries farmers and ranchers in North Dakota. Blowing dust is covering roads and fields in North Dakota, and severely dry conditions and dust storms were reported in Montana and Oregon. In Yolo County, California, most farmers and ranchers say this is the worst drought they have seen, even worse than 1977. Rangeland forage production is 25 to 35% of normal, dryland hay yields are 30% of normal, many small grain crops are being cut for hay instead of harvested for grain, and some rangelands are ungrazed due to no livestock drinking water. Other reports relayed from the National Drought Mitigation Center (NDMC) included: authorities in New Hampshire and Massachusetts were encouraging water conservation due to drought. North Dakota Gov. Doug Burgum on April 8 declared a statewide drought disaster. Dry pastures in eastern Montana have livestock producers on the

cusp of making tough decisions about culling cattle. On April 15, Texas Governor Greg Abbott issued a disaster declaration due to drought affecting 73 counties. The Edwards Aquifer is dropping and triggering water restrictions in San Antonio, New Braunfels, San Marcos, Texas. In the Klamath Project in southern Oregon/northern California, low stream levels are threatening endangered fish species critical to local tribes, but farmers in the area need irrigation water for their crops, with the Klamath Water Users Association sending letters to members warning that there would be "little to no water for irrigation for Upper Klamath Lake this year." Water restrictions were being implemented in several communities in California. Record low reservoir levels contributed to California Governor Gavin Newsom proclaiming a regional drought emergency for the Russian River watershed in Sonoma and Mendocino counties. Shallow wells were going dry in the San Joaquin Valley, while Tulare County ranchers were culling cattle for sale months earlier than usual and were considering idling row crops to leave water for higher-value permanent crops like nut trees. The amount of forage on rangelands is low, with producers in Ventura County already shipping whole herds of cattle out of county because there is almost no forage. Lakes Powell and Mead are forecast to drop to historic lows this summer, triggering the first water shortage declaration for the Colorado River Basin, limiting water supplies for Arizona and Nevada. Trees stressed by drought are dying in Arizona and New Mexico. The Biden-Harris administration announced the formation of an Interagency Working Group to address worsening drought conditions in the West and support farmers, Tribes, and communities impacted by ongoing water shortages. The Working Group will be co-chaired by the Departments of the Interior and Agriculture to build upon existing resources to help coordinate across the federal government, working in partnership with state, local, and Tribal governments to address the needs of communities suffering from drought-related impacts. The Working Group will work to identify immediate financial and technical assistance for impacted irrigators and Tribes.

Northeast: Abnormal dryness and moderate drought expanded in the Northeast, with moderate drought increasing from 8.7% of the region at the end of March to 13.5% at the end of April. Abnormal dryness stretched from northern West Virginia to central Maine, with areas of moderate drought in western Pennsylvania and New York; northern New York; and northern Massachusetts, southwest New Hampshire, and most of Vermont. The drought areas reflected both short-term dryness as well as longer-term dryness. Connecticut had the ninth driest January-April and New Hampshire the 13th driest May-April. April 26 USDA reports indicated topsoil (subsoil) moisture was short or very short across 61% (55%) of Maine and 55% (68%) of New Hampshire

Southeast: Abnormal dryness shrank but moderate drought expanded in Florida, and abnormal dryness spread into the Carolinas. Moderate drought rose from 0.4% of the Southeast on March 30 to just 0.7% by April 27, but abnormal dryness and moderate drought (D0-D1) doubled in area from 13.5% to 25.8%. North Carolina had the 13th driest April and South Carolina the 16th driest April; the ranks for the last two months (March-April) were 19th driest for South Carolina and 23rd driest for North Carolina. April 26 USDA reports showed 46% (36%) of the topsoil (subsoil) moisture short or very short in South Carolina.

South: Above-normal rainfall over northern Texas to southeastern Oklahoma, and from eastern Texas to the Lower Mississippi Valley, shrank drought and abnormal dryness in those areas. But continued dry weather intensified drought in western and southern Texas.

Moderate to exceptional drought (D1-D4) shrank slightly from 36.7% of the region at the end of March to 35.5% at the end of April. But the percent area in the extreme to exceptional (D3-D4) categories increased from 10.3% to 12.5%. April 26 USDA reports showed 67% (65%) of Texas topsoil (subsoil) moisture short or very short.

Midwest: Above-normal precipitation during April contracted drought and abnormal dryness in northern Minnesota to northern Wisconsin, but below-normal precipitation expanded abnormal dryness and moderate drought further south. Moderate drought expanded across Lower Michigan, across southern Wisconsin, to southeast Minnesota and northeast Iowa, while abnormal dryness expanded southward to the Ohio River. Extreme drought disappeared from northwest Iowa, but moderate to severe drought continued there. The percent of the region experiencing abnormal dryness and drought expanded slightly from 46.9% to 48.0%, while the percent area experiencing drought expanded from 11.6% to 19.4%. Michigan had the tenth driest January-April in the 1895-2021 record, ninth driest December-April, and 14th driest November-April. April 26 USDA reports showed 34% (45%) of Iowa topsoil (subsoil) short or very short of moisture and 30% (30%) of Michigan topsoil (subsoil) short or very short.

High Plains: Except for a few wetter-than-normal areas in Colorado, South Dakota, and Wyoming, the central to northern Plains were drier than normal in April. Contraction of drought or abnormal dryness occurred in the wet areas, while expansion occurred in the Dakotas, Montana, western Wyoming, and southwest Kansas. Extreme drought (D3) expanded in the Dakotas, moderate to extreme drought expanded in eastern and central Montana, and exceptional drought (D4) expanded in western Colorado, while extreme drought contracted in central Wyoming. Abnormal dryness and moderate drought expanded in southwest Kansas and moderate to severe drought expanded in western Wyoming. At the other end of the spectrum, much of eastern Nebraska and eastern Kansas was free of drought and abnormal dryness. The percent area of the High Plains region experiencing abnormal dryness and drought expanded very slightly, from 81.1% at the end of March to 81.7% at the end of April. But the most extreme categories, extreme to exceptional drought, expanded from 17.9% to 22.1%. North Dakota had the fourth driest March-April in the 127-year record, but driest February-April, January-April, December-April, November-April, October-April, September-April, and August-April. This contributed to rapid expansion of extreme drought, which covered 82.7% of the state by the end of April — the largest statewide extent for North Dakota in the 21-year USDM record. Montana had the third driest March-April, seventh driest January-April, sixth driest December-April, eighth driest November-April, and fifth driest July-April in the 1895-2021 record. Wyoming had the driest July-April, second driest August-April, third driest May-April, and fourth driest June-April. Colorado, where drought has been entrenched for the last two years, had the fourth driest May-April. April 26 USDA reports indicated topsoil (subsoil) moisture was short or very short across 57% (73%) of Colorado, 57% (57%) of Montana, 80% (78%) of North Dakota, 62% (73%) of South Dakota, and 55% (63%) of Wyoming. In Nebraska, 36% of the subsoil moisture was short or very short.

West: April 2021 was near to wetter than normal in only a few mountainous spots along the Rockies and in the interior, and drier than normal almost everywhere else in the West. Drought and abnormal dryness continued to expand, especially in the western and northern

portions of the region. Moderate to extreme drought (D1-D3) extended from the West Coast to Rocky Mountains and into the adjacent High Plains, with a large area of exceptional (D4) drought across the Southwest to southern High Plains. The percent area of the West experiencing moderate to exceptional drought, according to USDM statistics, increased from 75.2% at the end of March to 83.8% at the end of April. USDM statistics go back to 2000, while Palmer Drought Index statistics extend back another century to 1900. The percent area of the West (from the Rockies to the West Coast) in moderate to extreme drought (based on the Palmer Drought Index) jumped to about 91.1% by the end of April 2021. This is the largest percent area since the current drought episode in the West began in the late 1990s. It exceeded the maximum extent of 84.8% in October 2003 and 87.3% in April 1977 during the 1976-77 drought episode, and is second only to the 1930s peak of 94.4% that occurred in September 1934. Western snow cover was below average for the month, but mountain snow water equivalent (SWE) was still above normal in the Pacific Northwest and some Rocky Mountain locations, and below normal in most other western areas. According to end-of-April USDA statistics, statewide reservoir storage was below average in Arizona, California, Colorado, Nevada, New Mexico, Oregon, and Washington; near average in Idaho and Utah; and slightly above average in Montana and Wyoming. Oregon had the third driest April and second driest March-April in the 1895-2021 record, Idaho had the sixth driest April, and Washington had the seventh driest April and fourth driest March-April. California ranked fifth driest for April, February-April, and November-April. For the water year-to-date (October 1, 2020-April 30, 2021), precipitation was below normal in most areas with some wetter-than-normal areas in the north. The West has had significantly below-normal precipitation for the last 12 to 24 months and beyond. Arizona and Nevada had the driest 9-month (August-April) to 12-month (May-April) periods on record. New Mexico had the driest May-April 12-month period. California and Utah each had the second driest May-April, and as mentioned above, Wyoming ranked third driest and Colorado fourth driest for this 12-month period. Nevada had the second driest 18-month period (November 2019-April 2021). Colorado had the second driest 24-month period (May 2019-April 2021). Utah had the second driest such 18-month period and 24-month period. April 26 USDA reports indicated topsoil (subsoil) moisture was short or very short across 70% (70%) of California, 32% (30%) of Idaho, 89% (92%) of New Mexico, 69% (68%) of Oregon, 50% (57%) of Utah, and 61% (41%) of Washington.

Alaska, Hawaii, and Puerto Rico: April 2021 was drier than normal across the Hawaiian Islands. With the lack of precipitation this month, moderate drought returned to the Big Island and abnormal dryness spread across most of Hawaii, with abnormal dryness to drought expanding from 3.4% of the state on March 30 to 89.9% on April 27. April was drier than normal across much of Puerto Rico, with drier-than-normal conditions dominating the island, except in the west and south, for much of the last 2 to 36 months. Monthly streamflow was below to much below normal across southern and eastern sections, and root zone analyses indicated that soil conditions were dry along the immediate southern coast, in the east-central region, and parts of the northern coast of Puerto Rico. Moderate drought grew to about 14.3% of the territory, with abnormal dryness and drought expanding to about 77.0%, by April 27, compared to 8.0% and 26.8%, respectively at the end of March. April was drier than normal in some northern, southern coastal, and interior eastern sections of Alaska, and wetter than normal in the central interior and west coast sections. Below-normal precipitation persisted at the southern coastal, eastern interior, and northern interior areas at the 2-12 month time

periods. Enough precipitation occurred to trim the southern and western edges of the D0 (abnormally dry) area that persisted in northern to eastern Alaska, with abnormal dryness still covering about 20.7% of the state on April 27.

MEXICO: April 2021 was once again a warm and dry month for most of the country. During the month, rain fell mainly in the states of the Gulf of Mexico slope and the Yucatan Peninsula, although in several regions, rainfall was below average. The main weather systems that produced this rainfall were seven frontal systems, low pressure systems, and moisture from the Pacific. As in previous months, no rain fell in the Pacific states, which further aggravated drought concerns. With 11.0 mm of rainfall nationally, it was at 59.1% of the April's average (18.6 mm, 1941-2020), so that April 2021 was ranked as the 19th driest on record. The national average temperature of 23.0 °C (73.4 °F) was 1.1 °C (2.0 °F) above April's average and ranked as the sixth warmest April, albeit tied with April in 2005, 2006, 2011 and 2017, according to temperature records since 1953. Temperatures were cooler in portions of Baja California and Coahuila, as well as isolated areas in the central south. In contrast, the rest of the country was warmer than normal.

With little or no rainfall in drought regions, the increase of dryness and drought continued in April 2021. Moderate to exceptional drought coverage (D1-D4) stood at 75.27% as of April 30, an increase of 3.75% over the March 31 report (71.52%, from D1 to D4). April 2021 is the fourth month with the highest drought coverage experienced in the country, according to data from the North American Drought Monitor (NADM) whose records date back to late 2002 and the Mexican Drought Monitor (MSM) with records since 2014. The slight difference from the previous peak observed in April 2011 is that, at that date, the coverage with exceptional drought was 3.5%, while as of April 30, 2021, there is only 1.18% of the country with exceptional drought (D4).

The National Forestry Commission (CONAFOR) report on April 30 indicates 4,676 fires have been reported throughout the country for the year to date, affecting an area of 212,050 hectares, where the states of Guerrero, Nuevo Leon, Chihuahua, Oaxaca, Michoacan, Chiapas, Mexico, Durango, Puebla and San Luis Potosi accounted for 74% of the national total. The area burned from January to April this year is at 58.7% of the area burned from January to April 2011 (361,467 hectares); 2011 is the year with the largest area burned by fires, according to CONAFOR data. This is the third January-April period with the largest area burned, behind 2011 and 2017. During the month, at least thirteen conflagrations occurred in eleven Natural Protected Areas. In addition, three fires reported in Michoacán, Morelos and Oaxaca were of special attention, due to adverse weather conditions, injured personnel and social conflicts. It has been detected that 40 percent of these fires are related to illegal activities and 18 percent to agricultural work.

According to the National Water Commission's reservoir report as of May 3, there is a 9.7% deficit in storage at the national level, average compared to date. The storage of the North Pacific and Rio Bravo are the lowest, being below 44% and 61%, respectively. At the state level, the lowest storage percentages were reported in Querétaro (14%), Coahuila (37%), Sinaloa (46%) and Veracruz at 49%.

Northwest or North Pacific (Baja California, Baja California Sur, Sonora, Sinaloa, Nayarit): These states cover approximately 21% of the country. Although in April, there is still an incidence of winter systems, these tend to be less and less compared to the winter months. In April 2021, Baja California and Sinaloa received light precipitation, but have recorded their seventh and ninth driest periods from February to April. Temperatures were warmer than average in Sonora, Nayarit and portions of the Baja California Peninsula, and slightly cooler in southern Sonora and Sinaloa. Light snowfall was reported at the end of the month in Baja California. Fires were reported in the Isla de Guadalupe Biosphere Reserve in Baja California. This region showed the greatest increase in areas with moderate to exceptional drought (D1-D4) with respect to the previous month; the rest of the regions went from 76.2% on March 31 to 82.2% on April 30, an increase of 6%.

Northern (Chihuahua, Coahuila, Durango, Zacatecas and San Luis Potosí): These states make up 33.4% of the country's land area. Light rains were observed in northern Coahuila, southern Chihuahua and central Durango. The rest of the region remained practically rain-free. Coahuila, Durango, Zacatecas and San Luis Potosi recorded rainfall in the last three months in the top ten driest category. In terms of temperatures, San Luis Potosi experienced its second warmest April. Fires were still recorded in the area, but they were of lesser importance than those that occurred in March. The northern states had a slight increase of 2.9% in the area of moderate to exceptional drought (D1-D4) and stood at 99.2% as of April 30.

Northeast (Nuevo León and Tamaulipas): This region accounts for 7.3% of the national territory. Rainfall was slightly above average in the north of these two states; in the rest of the region, rainfall was deficient. Fires were reported in two nature reserves: in the Cumbres de Monterrey National Park in Nuevo León, and the El Cielo Biosphere Reserve in the state of Tamaulipas. Nuevo León and Tamaulipas recorded their seventh warmest and eleventh warmest April. The northeast has been the region with the second largest increase in drought in the last month; as of April 30, 96.4% of this region is in moderate to exceptional drought (D1-D4), an increase of 6.7%.

Central-West (Aguascalientes, Jalisco, Guanajuato, Colima and Michoacán): These states represent 9.3% of the country. Dryness or absence of rainfall continued in most of this region, although at the end of the month some precipitation fell, especially in Michoacán. More than 20 days with temperatures above 40 °C (104 °F) were recorded in the Balsas depression, which covers the central portion of Michoacán, and less than 15 days above 40 °C (104 °F) were observed in western Jalisco. These conditions, combined with the lack of precipitation, further exacerbated drought concerns in the region. The "Chivatillo" fire was reported in the municipality of Atemajac de Brizuela, in the state of Jalisco, and in "Huantzanguio/Cerro del Águila", a municipality of Morelia, in Michoacán. The Central-West region remained practically unchanged with 100% of the region's area in moderate to extreme drought (D1-D3) as of April 30.

Central-South (Querétaro, Hidalgo, State of Mexico, Tlaxcala, Puebla, Morelos and Mexico City): This region represents 5.2% of the national territory. The first rains finally arrived, but far from the Cutzamala basins. The Cutzamala System transports water from Michoacán (where it originates), passing through the State of Mexico to reach Mexico City;

the system is 322.32 kilometers (200.28 miles) long and is currently responsible for supplying drinking water to more than 21 million inhabitants in the country's capital; 100% of the Cutzamala basin is in moderate to extreme drought (D1-D3). As of May 3, the storage of the 3 main water reservoirs of the Cutzamala System (El Bosque, Villa Victoria and Valle de Bravo), which supply part of the Metropolitan Zone of the Valley of Mexico, stood at 41.7%, the lowest percentage recorded for a similar date. Fires were reported in the Forest Protection Zone of the Valle de Bravo, Malacatepec, Tilostoc and Temascaltepec river basins in the State of Mexico; two in the Flora and Fauna Protection Area of the Chichinautzin Biological Corridor and in El Tepozteco National Park, in the State of Morelos; and in La Montaña Malinche or Matlalcuéyatl National Park, in the State of Tlaxcala. As of April 30, 60.5% of the central-south states are in moderate to extreme drought (D1-D3), with rains in the eastern part of the central-south states allowing a slight recovery of 1.1%. The states of Estado de México and Querétaro recorded their second warmest April.

Gulf of Mexico (Veracruz and Tabasco): These states along the Gulf of Mexico constitute 4.8% of the country's land area. Rain fell in northern Veracruz, but in the rest of the state and towards Tabasco, rainfall was below average, leading to a 3.5% increase in drought area. This increase occurred in southern Veracruz. Tabasco continues without drought or dryness conditions.

Southern Pacific (Guerrero, Oaxaca and Chiapas): These states comprise 11.9% of the national territory. Of these three southern states, Guerrero continues without any recovery. 37.8% of the southern states are in moderate to extreme drought (D1-D3), an increase of 7.7% over the last month. In the state of Oaxaca, fires were reported in Santa Catarina Juquila, which were difficult to control due to social conflicts. In Chiapas, fires affected La Encrucijada Biosphere Reserve, Cañón del Sumidero National Park, and La Sepultura Biosphere Reserve.

Yucatan Peninsula (Campeche, Quintana Roo and Yucatan): The peninsula comprises 7.1% of the national territory. Above-average rainfall occurred mainly in Yucatán, and the rest of the region received below-average rainfall. There are no drought problems in the region, but the coverage of abnormally dry conditions that were absent in the previous month has reached 15.4% as of April 30.